Metabolic Syndrome in Fasting and Non-Fasting Participants: The UAE Healthy Future Study

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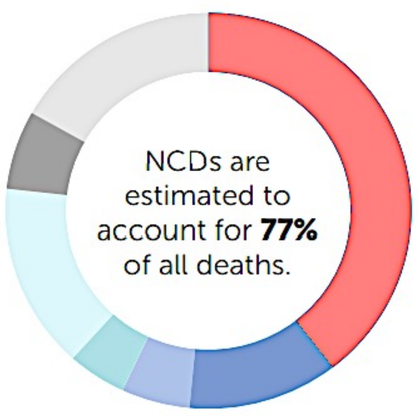
Metabolic Syndrome (MetS) is highly prevalent in young Emirati adults; 22.7% in males and 12.5% in females. Measureing **HbA1C** as an alternative for **fasting blood glucose** may be acceptable to test for MetS in non-fasting samples.

UNITED ARAB EMIRATES

- 40% Cardiovascular diseases
- 15% Other NCDs
- 12% Cancers
- 6% Communicable, maternal, perinatal and nutritional conditions
- 5% Chronic respiratory diseases
- 17% Injuries
- 5% Diabetes



CVD RISK FACTORS & METABOLIC SYNDROME

VISCERAL OBESITY
BLOOD PRESSURE
HIGH-DENSITY LIPOPROTEIN
TRIGLYCERIDES *
FASTING BLOOD GLUCOSE *

THE CLUSTERING OF **3 OR MORE** RISK FACTORS IS CALLED

METABOLIC SYNDROME (MetS)

FOR NON FASTING BLOOD SAMPLES:
-INCREASED CUT OFF FOR TRIGLYCERIDES. *(≥150 to ≥175)*
- SUBSTITUTE FBG WITH HBA1C. *(≥5.7)*

RESEARCH OBJECTIVES:

TO ESTIMATE THE PREVALENCE OF METS IN FASTING AND NON-FASTING BLOOD SAMPLES BY *SLIGHTLY MODIFYING* THE CRITERIA. & TO IDENTIFY RISK FACTORS FOR METS.

METHODS:

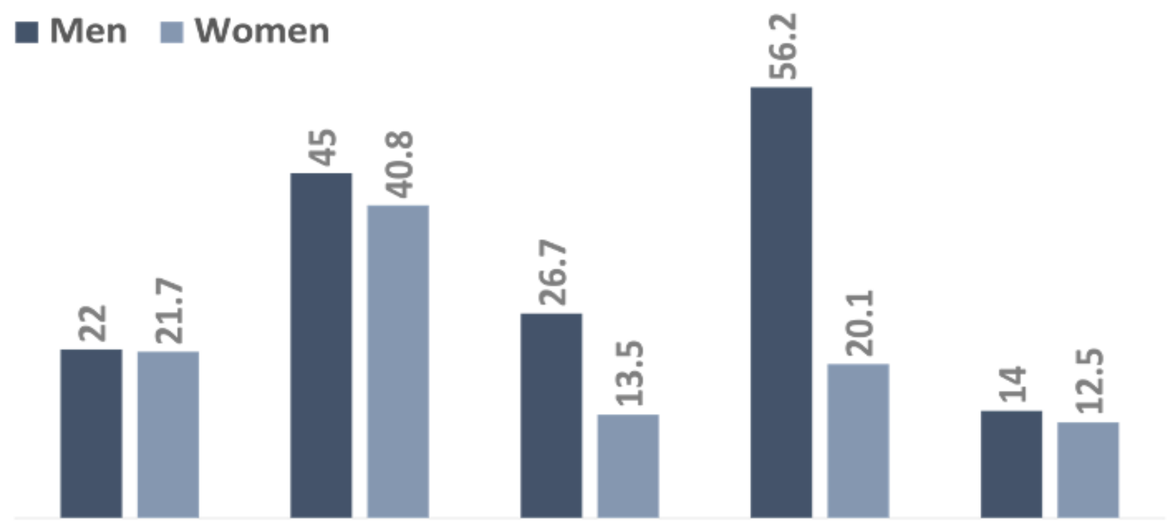
UAE HEALTHY FUTURE STUDY BASELINE DATA: 2016 – 2018
EMIRATI NATIONALS aged 18-40 YRS

Demographic, Social , health & lifestyle	Blood pressure, Waist C	Blood sample: HDL, Triglycerides, FBG, HbA1C	Multivariate logistic regression analysis

RESULTS:

5,161 ELIGIBLE PARTICIPANTS [62% MALES, 38% FEMALES].

1. AGE-ADJUSTED PREVALENCE OF METS BIOMARKERS



2. AGE-ADJUSTED PREVALENCE OF METS

METABOLIC SYNDROME	FASTING	NON-FASTING	TOTAL
		MEN	
BY FBG	24.9 (21.8–28.0)		
BY HBA1C	22.8 (19.8–25.9)	21.5 (19.8–23.2)	21.9 (20.4-23.4)
COMBINED	26.0 (22.9–29.2)		**22.7 (21.24.2)**
		WOMEN	
BY FBG	16.6 (12.1–21.1)		
BY HBA1C	17.7 (13.1–22.2)	11.5 (9.9–13.2)	12.4 (10.9–14.0)
COMBINED	18.0 (13.4–22.6)		**12.5 (11.0–14.0)**

Data is presented as percentage (confidence interval). Differences in percentages are not significant P > 0.001.

3. RISK FACTORS FOR METS

AGE, INCREASING BMI, AND POSITIVE FAMILY HISTORY WERE CONSISTENTLY ASSOCIATED WITH METS ACROSS ALL MODELS

CONCLUSIONS & FUTURE DIRECTIONS:

- **Cardiometabolic risk factors are highly prevalent and are clustering in young adults in the form of MetS.**
- **Substituting fasting blood glucose (FBG) by HbA1C may be acceptable to test for MetS in non-fasting individuals.**
- **Age, increasing BMI and positive family history are strong predictors for MetS.**
- **This should be taken into account in the design of target-group-specific measures for the prevention of MetS and NCD development.**

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